# **The Business Plan**

- Hired team of telecommunications technology, business and marketing consultants to assist in the development of a Telecommunication Business Plan
- Policymakers adopted plan in April 1997
- Construction began in January 1998

# How Tacoma Power Was Able To Do It

- Confidence created by nearly 5 years of thorough study
- Solid business plan with multiple revenue streams
- Ability to leverage existing assets
- Successful 100+ year old utility business
- Cash reserves created in wholesale power market
- Overwhelming customer and community support

# **Click! Network Applications**

- Electric system distribution automation, market access and real-time
- Cable television, digital audio and Internet over television
- Broadband services with customized point-to-point connectivity, virtual private networks & point-to-multipoint connections
- Internet over cable modem

# Tacoma Power's Telecommunication System

- Multiple fiber optic rings running throughout service area
- Secure and redundant fiber optic system with SONET electronics
- Fiber rings support two-way 750 MHZ broadband hybrid fiber coax system in residential areas reaching all homes

# **Evolution of Electrocomm**

 Electric and telecommunication industry restructuring coupled with technology innovation, global market forces and infrastructure and end use synergies have led to the evolution of an entity called **ELECTROCOMM**

# **Electrocomm Definition**

 Electrocomm is a regulated entity that owns and operates an open-access discrete local distribution infrastructure that delivers the smart (data) and dumb (energy) electrons from unregulated content supplying entities to the end consumers

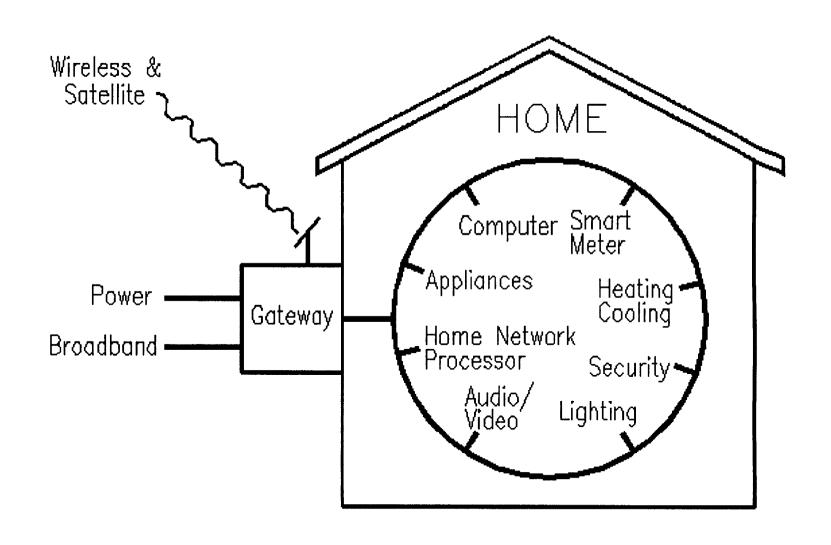
# **Electrocomm Purpose**

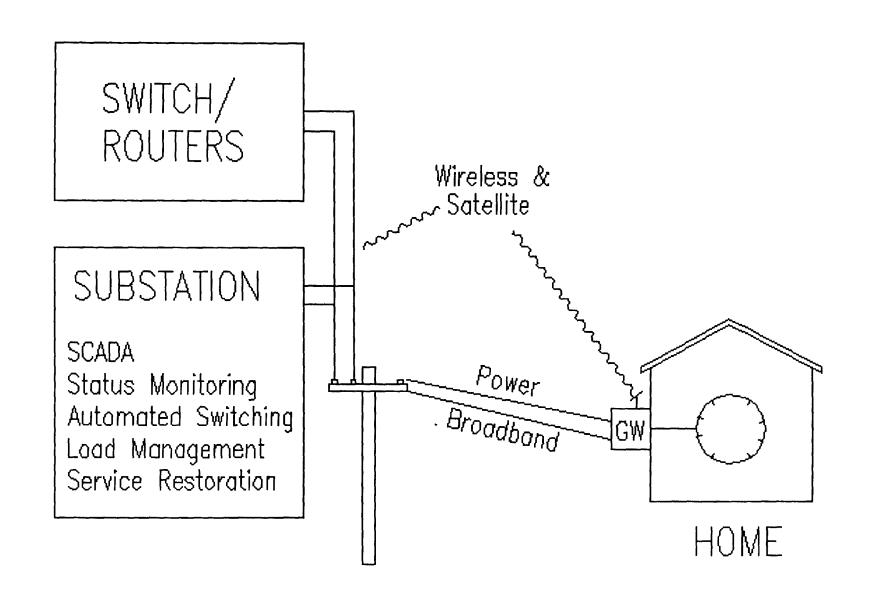
 Electrocomms leverage their assets (poles, substations, conduit, right-ofways, customer base, etc.) to serve their distribution customers in the most efficient and reliable manner

- Electrocomms can justify "last mile" broadband buildout to customers' premises because:
  - Existing valued customer
  - Leverage existing assets
  - Provides direct communication link with customer and equipment
  - Enables capture of efficiencies and regulatory compliance with restructured industry(automated meter reading, demand-side management, realtime power pricing, power commodity transaction & accounting, remote connects/disconnects)
  - Allows for revenue diversification and growth

# **Electrocomm Thoughts**

- Electric industry shifting from physical asset world to an intangible, transparent world in which electrons themselves carry enormous added value
- Utilization of and linkage to cutting edge technology will be necessary to command customers attention
- Growth of micro processor-based society demands premium quality power delivery
- Development of distributed generation necessitates integrated electric/telecommunications network
- Electron technologies and applications converging to single point-of-entry to customer premises





# Click! Power Advantage

- All major power substations wired to fiber network
- Installing computerized control & data acquisition systems in all power substations
- Pilot program for automated outage isolation and service restoration
- Pilot program for electrocomm gateway into premises & associated automated services & management
- Replacing SCADA master computer with state-of-the-art technology utilizing high bandwidth fiber optic based communication system.

# Click! Cable

- First Click! cable customer July 27, 1998
- 13,500 cable customers and growing
- First on west coast to launch WorldGate (Internet over TV)
- 2,600 WorldGate customers and growing
- Content determined by customer demand rather than industry model of "owned programming"
- Our challenge is managing the high demand for our services

# Click! Business Advantage

- Broadband business launched in March 1999 (DS-1 to OC-48+)
- Partners include CLEC's, CAP's, private networks, customized value-added providers
- 45 circuits sold (ranging from DS-1 to OC-3)
- Click! is a non-discriminatory transport wholesaler
- Multimillion dollar investment in Tacoma (Tier 3 City) by telecommunications companies

# **ISP Advantage**

- They said it couldn't be done
- The first commercial scalable "open access" Internet platform in the Country
- ISP Advantage launched December 1999
- Five Internet Service Providers (ISP) offering choice to consumers
- The ISP's are Click!'s direct customers and the retail consumers are the ISP's customers
- Click! Provides the pipe and ISP's provide the marketing, customer services, cable modem and billing



# Click!, Tacoma Power leading industry

ne eyes of the world's electric industry are turned on Tacoma Power thanks to Click! Network and some innovative engineering.

What they are seeing is an electric utility using Ethernet standards and technology that will facilitate operating its electrical distribution system. It has never been done before, and **Joe Orth** and **Michael Pesin**, electrical engineers with Transmission & Distribution, are in the middle of it, making it work. They are heading a team that includes employees from the Communication, Meter/Relay and Wire shops, Power Operations and Transmission & Distribution.

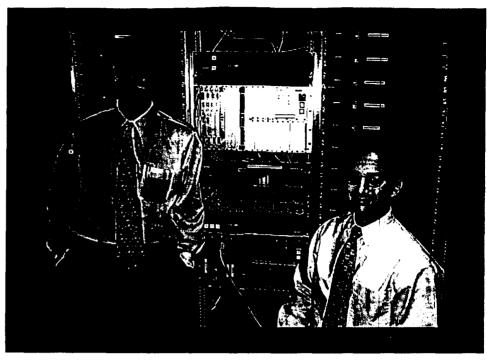
This project replaces the present SCADA system (system control and data acquisition) that lets the power system dispatchers monitor the system and control some functions from the Energy Control Center. The present system is similar to those used industry-wide, but it is aging and needs replacement. The replacement envisioned will use Click! Network's fiber-optic backbone to do everything the current SCADA system does, and much more.

"This is really cool," Joe said. He said the new system will not only tell the dispatchers when there is an outage, it can even tell them where on the line the problem is. Not only that, but it can provide that information in seconds. The current system relies on customers calling in to report outages and then crews must go out and patrol the lines looking for the cause of the problems.

Once the problem is found, crews "sectionalize" the line. That means they operate switches in the substations that reroute electricity so the smallest possible number of customers are out of service while the repairs are made. With the new system, pole-top computers will automatically calculate how to minimize the outage and do the switching automatically. It can do in less than a minute what now can take several hours.

A key to this is using Ethernet technology. Ethernet is the most widely-used global standard for high-speed communication. It makes highly advanced control possibilities realities.

Using Ethernet standards for global communication makes the system open to new technology as it comes along and keeps it from being tied to a single vendor because of proprietary systems. This is one of the big advantages of using the Ethernet.



Joe Orth (left) and Michael Pesin are impressing the electric utility industry with their work using Ethernet communications for Tacoma Power's SCADA system.

Even though electric utilities have used remote monitoring and controls for decades, they have never used Ethernet technology because it requires the kind of high-speed, high-capacity network that fiber optics provide. Using Click! Network, Tacoma Power has that. In fact, this was the primary reason that Tacoma Power pursued building fiber facilities that eventually led to building the Click! Network.

Copper wire communication operates at 1,200 bits per second and high-speed telephone lines can run at higher speeds, but for electrical systems to do what Tacoma Power envisions you need more than 10,000 bits per second.

"The infrastructure has not been available to support those high speeds and the amount of equipment you need on line at once," Joe said.

Who else is doing this? Nobody.

Joe and Michael presented the project before an international audience in San Diego last February. They explained what they were doing, what problems they encountered and how they solved the problems.

"The room was packed," Joe said, "and nobody stood up and said, 'Yeah, we're doing that too."

While a technical explanation of highspeed communications applied to electrical system control and data acquisition is not everyone's idea of high excitement, it is to Joe.

"How could you not be excited when we present this internationally, in a room with more than 150 people representing utilities throughout North America, and they are excited?" he asked. "Our question period ran out. People were coming up and giving us business cards and asking for information."

In fact, they were so impressed they invited Joe to be the technical chair of a group that sets international standards for communication between SCADA devices. Joe accepted.

"It is very prestigious for Tacoma Power to be chairing an international technical committee," Michael said.

Tacoma Power expects to have a pilot program working next year and the majority of the system in place and operating throughout Tacoma by the 2005/2006 biennium. The system incorporates very tight security measures so there can be no unauthorized entry, although authorized users will be able to access system information from anywhere with a laptop computer.

"Tacoma is the perfect size for this project," Michael said. "We are large enough to make it economical and small enough to implement it in a reasonable time."

## CLICE NETWORK

Tacoma Power's Click! Network offers a variety of state-of-the-art residential and business telecommunications services throughout the City of Tacoma. Click! Network gives people choices for cable television, data transport and Internet access. Click! makes Tacoma one of the leading digitally connected cities in the United States.





Tacoma Power is fulfilling the promise to use its fiber-optic telecommunications network to improve the reliability of its electric system, bring new technology to Tacoma businesses, give customers choices for telecommunications services and support economic development. Tacoma Power's Click! Network combines a reliable network and cutting-edge technology with a professional, experienced service team that consistently provides businesses and residents with the most desirable telecommunications services available today. Tacoma businesses have a competitive advantage because they have access to the local community and the world through Click! Network's reliable, high-quality telecommunications system.

#### CLICK! NETWORK FOR YOUR BUSINESS

Click! Business Advantage offers a variety of high-capacity data transport products that range in bandwidth from a DS1 through an OC48; Music Advantage for digital on-hold and background music; and Click! TV Advantage for business cable television. High-speed cable modem Internet services will be offered through Internet Service Providers serving the greater Tacoma area.

#### CLICK! NETWORK FOR YOUR HOME

Tacoma residents who choose Click! cable television receive a popular variety of entertainment, movies, sports and news programs; premium and pay-per-view channels; digital music; outstanding picture quality and Internet access with e-mail through the television.

#### THE CLICK! NETWORK SYSTEM

Click! Network offers a Hybrid Fiber Co-axial (HFC) system. The system consists of 126 neighborhood nodes that connect homes and businesses to the network. The network includes a Synchronous Optical Network (SONET) ring architecture that increases reliability, security, redundancy and functionality. Click! continuously monitors the quality of service through the latest technology of network management. In the unlikely event of a failure in one part of the system, the network automatically re-routes customer traffic around the point of failure.

For more information, call Click! Network at 253-502-8900 or visit the Click! World Wide Web site at <a href="http://www.click-network.com">http://www.click-network.com</a>.

Tacoma Power's Click! Network offers fiber optic, state-of-the-art residential and business telecommunications services throughout the City of Tacoma. Click! Business Advantage products include a variety of high-capacity broadband services for businesses that need to transport large amounts of information very quickly. Click! makes Tacoma one of the leading digitally connected cities in the United States.



## CLICK! BUSINESS ADVANTAGE OVERVIEW

Tacoma Power's Click! Network combines a reliable network and cutting edge technology. Click! has a professional, experienced service team that consistently provides business owners and managers with the highest quality telecommunications services available today.

Tacoma businesses have a competitive advantage because they have access to the local community and the world through Click! Network's reliable, high-quality telecommunications system. Click! Business Advantage offers a variety of high-capacity data transport products that range in bandwidth from a DS1 through an OC48 at very competitive prices.

Whether your business is located in the Tacoma area, resells telecommunication services, or needs to connect to other businesses worldwide, Click! will provide expert advice and assistance. Our business accounts manager will recommend the appropriate mix of products and services to meet the growing and changing needs of your business and your customers.

Click! Network is operated by the same people who operate Tacoma Power, a publicly owned electric utility. Click! Network has already established a reputation for providing excellent customer service – just ask our customers.

#### **BUSINESS ADVANTAGE 1 AND 2**

Click! Business Advantage 1 is a privateline, digital transport service that provides reliable, secure and cost-effective transportation of voice or data between locations. This point-to-point service provides for transmission at 1.544 Mbps (DS1) and has the capacity of 24 voice channels. Businesses use DS1 services for point-to-point connectivity to transfer large data files, teleconference, connect remote offices to main offices and any other business uses demanding a fast download of information.

Click! Business Advantage 2 is a dedicated high capacity channel for the transmission of data at a rate of 44.5 Mbps (DS3). Businesses use DS3 services for high-speed connections, to transfer large files or large amounts of information, to connect to other business locations, for out of market reach and for an unlimited variety of other uses.

Telecommunication companies that serve small to medium sized businesses may find the Business Advantage 1 or 2 the solution for reaching their existing Tacoma customers and expanding their services throughout Tacoma. Fractional connections may be available – ask our business accounts manager for more details.

#### THE CLICK! NETWORK SYSTEM

The SONET ring architecture increases reliability, security, redundancy and functionality. Click! continuously monitors the quality of service through the latest technology of network management. Click! Network's system ensures data is secure during transmission. Other customers do not have access to your traffic.

In the unlikely event of a failure in one part of the system, the network automatically re-routes customer traffic around the point of failure.

Click! Network provides 24-hour customer support with a Tacoma based Network Operations Center (NOC). Our goal is to keep your service up and running 100 percent of the time! We know that your business depends on it.

For more information, call Click! Network at 253-502-8900 or visit the Click! World Wide Web site at <a href="http://www.click-network.com">http://www.click-network.com</a>.

Jick! Business Advantage

## Click! Advantage 3, 4 and 5

Tacoma Power's Click! Network offers fiber-optic, state-of-the-art residential and business telecommunications services throughout the City of Tacoma. The Click! Business Advantage product line includes a variety of high-capacity broadband services for businesses that need to transport large amounts of information very quickly. Click! makes Tacoma one of the leading digitally connected cities in the United States.



## CLICK! BUSINESS ADVANTAGE NETWORK

Tacoma Power's Click! Network supports a wide range of bandwidth needs with the reliability that your company and your customers depend upon. The network is also flexible and can be upgraded to accommodate the changing needs of your business. Whether your business is already in the Tacoma area, resells telecommunication services or needs to connect to other businesses worldwide, Click! will provide expert advice and assistance to help you meet your technology needs.

The network includes a Synchronous Optical Network (SONET) ring design, which increases reliability, security, redundancy and functionality. Click! continuously monitors the quality of service through the latest technology of network management. In the unlikely event of a failure in one part of the system, the network automatically re-routes customer traffic around the point of failure. Click! Network offers a full spectrum of customer support needs 24 hours a day from a Tacoma-based Network Operations Center.

Click! Network is operated by the same people who operate Tacoma Power, a publicly owned electric utility. Click! Network has already established a reputation for providing excellent customer service – just ask our customers.

# BUSINESS ADVANTAGE 3, 4 AND 5

Click! Network's high-speed products and flexibility allow you to increase your bandwidth as your business grows and your needs change. Click! provides the fastest connection speeds available today. Customers pay a fixed monthly cost based on the speed selected. Advanced SONET Technology allows Click! to provide these services at four Optical Carrier ( OC ) levels in three convenient products:

Click! Business Advantage 3 is an OC3 providing the full rate of 156 Mbps.

Click! Business Advantage 4 is an OC12 providing the full rate of 622 Mbps.

Click! Business Advantage 5 is an OC48 providing the full rate of 2488 Mbps.

These products are designed for large business customers who need high bandwidth, as well as customers that do not wish to purchase another router or additional equipment.

Business Advantage 3 is an easy upgrade path for Business Advantage 2 (DS3) customers; instead of ordering multiple DS3s for additional bandwidth, customers can upgrade to Business Advantage 3 and save money. Click! Business Advantage 4 and 5 can be the next step as your business outgrows Business Advantage 3.

Click! can support all types of traffic and will work with you to connect to your equipment at your location or a co-location. Telecommunication companies that want to provide services to multiple customers in Tacoma now have another choice for a telecommunications provider in Tacoma.

Fractional connections may also be available. For pricing and additional product information, contact our business accounts manager at 253-502-8900.

Many businesses today have a need for music or entertainment service to play in the background of the work environment.

Click! TV Advantage and

Click! Music Advantage are great services that create an atmosphere your customers and employees will enjoy.

Call Click! Network today for the best value in music and entertainment.

#### **CLICK! BUSINESS ADVANTAGE**

Tacoma is one of the few cities that has a choice in business cable TV and digital music. Click! is operated by the same people who operate Tacoma Power, your publicly owned electric utility. Click! has already established a reputation for providing excellent customer service — just ask our customers.

# BUSINESS ADVANTAGE OVERVIEW

Offices, restaurants, bars, hotels, retail stores and other businesses find that customers enjoy Click! TV Advantage and Click! Music Advantage. Both services enhance your business atmosphere. TV and background music make customers and employees feel comfortable without distracting from the activity taking place in your business.

#### CLICK! TV ADVANTAGE

Click! has a variety of packaging options to meet your needs. Options range from local broadcast channels to a large variety of popular cable channels such as CNN, Speedvision and The Golf Channel.

Special packages are available for owners of hotels and motels interested in premium movie channels such as HBO and Showtime in guest rooms. Ask our Click! business accounts manager for information on Click! Business Advantage packages and prices.

#### **CLICK! MUSIC ADVANTAGE**

Music Advantage gives your business the competitive edge by providing a pleasant atmosphere for customers. The background music can be used in public or private areas. It can also be used as a telephone on-hold music service.

Music is selected from a library of tens of thousands of CDs. You select the music genre that best fits your clientele and your business. Our complete package of 31 channels will appeal to just about every musical taste from classical to rap, easy listening to unreleased new artists.

Call Click! Network today!



## Click! TV Advantage and Click! Music Advantage

#### CLICKI TV ADVANTAGE

#### **Broadcast Level NW Cable News** 3 KBTC (PBS) 4 KOMO - ABC 5 KING - NBC 6 KONG - Ind. 7 KIRO - CBS KWPX - Ind. 9 KCTS (PBS) KTWB - WB

- 10 KTWB WB
  11 KSTW UPN
  12 TV Tacoma
  13 KCPQ FOX
  23 KTBW TBN
  24 Odyssey
- 25 Click! Showcase26 TV Guide Channel27 Sneak Prevue85 Government Chan
- 85 Government Channel 87 Education Channel

## 88 KHCV – Ind.

# Basic Level (Also includes Broadcast Level)

- 28 Weather Channel
- 29 Discovery30 C-SPAN
- 31 The Learning Channel
- 32 TBS
- 33 CBUT Canadian
- 34 QVC

## Standard Level

(Also includes Broadcast

- & Basic Levels)
- 35 USA 36 FX
- 37 TNT
- 38 Lifetime
- 39 E!
- 40 TNN
- 41 Country Music TV
- 42 VH1
- 43 MTV
- 44 BET on Jazz
- 45 Comedy Central
- 46 Fox Sports Net \*\*
- 47 ESPN \*\*
- 48 ESPN2 \*\*
- 49 Speedvision
- 50 A&E
- 51 History Channel
- 52 Sci-Fi
- 53 Fox Family Channel
- 54 Disney Channel
- 55 Toon Disney
- 56 Nickelodeon
- 57 Cartoon Network
- 58 Animal Planet
- 59 Outdoor Life Network
- 60 Home & Garden
- 61 Home Shopping Network
- 62 BET
- 63 Univision
- 64 International Channel
- 65 BBC America
- 66 CNN
- 67 CNN Headline News
- 68 Court TV
- 69 CNBC
- 70 MSNBC
- 71 AMC
- 72 FXM
- 73 Turner Classic Movies
- 74 Bravo
- 79 Fox Sports World \*\*
- 80 Travel Channel
- 98 Golf Channel \*
- 99 C-SPAN 2 \*

### **CLICK! MUSIC ADVANTAGE**

- 1 Showcase 1
- 2 Showcase 2
- 3 Origens
- 4 New Releases
- 5 American Originals
- 6 Sounds of the Season
- 7 For Kids Only
- 8 Body & Soul
- 9 R&B Hits
- 10 Dance
- 11 Rap
- 12 Metal
- 13 Alternative Rock
- 14 Progressive
- 15 Classic Rock
- 16 Soft Rock
- 17 Hit List
- 18 80's
- 19 70's
- 20 Solid Gold Oldies
- 21 Today's Country
- 22 Classic Country
- 23 Big Band
- 24 Easy Listening
- 25 Classical Masterpieces
- 26 Light Classical
- 27 Atmospheres
- 28 Light Jazz
- 29 Jazz
- 30 Blues
- 99 Gospel

Premium channels such as HBO and Showtime may be available for hotels and motels. See your Click! Network Business Account Manager for more details.

- Part-time channel from 6 A.M. 10 P.M.
- \*\* Sports channels may have special rates. Ask for details.

New from CLICK! NETWORK

# WORLDGATE INTERNET ON TV

the affordable Internet service that comes to your TV through your cable line.



- No equipment to buy
- No computer, no modem, no phone line needed
- Unlimited use
- Fast Internet access
- Low monthly fee includes up to six e-mail addresses and a wireless keyboard
- A perfect complement to computer Internet access

## **CLICK! NETWORK**

Only \$9.00/month\*

(Plus your monthly cable service. Wireless keyboard fee of \$1.50 included.)

Call 253-502-8900

30-day money back guarantee

<sup>\*</sup>You must be a Click! Network customer to subscribe to WorldGate. Click! set-top receiver required. Taxes and fees not included. May not be available in all areas. Upgrade or installation fees may apply. Call for details.

## Don Dennis - Century Telephone, Government Affairs Manager

Don Dennis was born and raised in Monroe, Washington. Don has been in the telephone industry for 33 years; ten years with United and the remainder with PTI, now CenturyTel. He has always been involved with customer service. He was the Customer Service/Marketing Manager for several years until accepting his new position as Governmental Affairs Manager for Washington, Oregon, Idaho and Montana. Don has been a board member of the Washington Rural Council Telecommunications Committee for the past several years. He lives in Gig Harbor with his wife Sue; their two grown children live in the Redmond area. He truly enjoys working with people.

### **CenturyTel**

CenturyTel offers local telephone, wireless, Internet, long distance, and home and business security services to customers in 21 states. From protecting your family with home security to growing your business with high-speed data transmission, CenturyTel has the tools to enhance your world.

### Gig Harbor Gears Up for DSL

MONROE, LOUISIANA . . . CenturyTel, Inc. (NYSE Symbol: CTL) is bringing the freedom of real speed to Gig Harbor.

The Company first launched its Digital Subscriber Line (DSL) technology in Gig Harbor in December 1999 to meet the area's growing need for faster digital transmission. DSL is among the newest modern technologies, allowing very high-speed, simultaneous transmission of voice and data - including video - over telephone lines.

Pent-up local demand and CenturyTel's need to validate the service in time to meet this year's aggressive rollout schedule made Gig Harbor the logical market for the Louisiana-based communications company's first application.

The "killer application" for DSL, according to CenturyTel's Data Products Manager Dennis Savoie, is high-speed Internet access.

"As the content of Internet traffic changes to more complex, graphic pages and larger files, it takes longer and longer to download those files using traditional dial-up modems," Savoie said.

Commercial and residential CenturyTel customers can now receive information nearly 277 times faster than with their standard 28.8 modem. Interactive video applications like movies on demand and continuous video streaming of news, weather, sports and games are enhanced, as are telecommuting, and remote LAN and Internet access.

DSL is ideal for the quick transfer of large data files, virtually real-time keeping in touch with friends and family, and more efficient work-at-home, distance learning and power gaming.

"Multi-PC households are another driver in the growing demand for broadband access," Savoie said. "Twenty-five percent of U.S. households own more than one computer, and that number is growing at a yearly rate of 30 percent. This growth is what is behind our aggressive deployment schedule."

CenturyTel has partnered with Alcatel for DSL deployment in Gig Harbor, he said, with rollouts scheduled in an additional 43 markets before the end of the year. By the end of this year, more than 600,000 of CenturyTel's total telephone access lines should be DSL-ready.

CenturyTel, Inc. provides integrated communications services including local exchange, wireless, long distance, Internet access and security monitoring services to more than two million customers in 20 states. The company, headquartered in Monroe, Louisiana, is publicly traded on the New York Stock Exchange under the symbol CTL.

CenturyTel is the 7th largest local exchange telephone company, based on access lines, and the 9th largest cellular company, based on population equivalents owned, in the United States.